

In the claims:

1. (Previously amended) A two-part adhesive system, comprising:
 - (a) an adhesive part A, which comprises:

a monomer selected from the group consisting of a monofunctional acrylate monomer, a difunctional acrylate monomer, a trifunctional acrylate monomer, a monofunctional methacrylate monomer, a difunctional methacrylate monomer, a trifunctional methacrylate monomer, and a combination thereof;

a peroxide or hydroperoxide free-radical initiator; and

an antioxidant;
 - (b) an activator part B, which comprises:

a N,N-disubstituted aromatic amine,

a difunctional methacrylate monomer,

an antioxidant,wherein the difunctional methacrylate monomer is present in an amount of from 10 to 80 percent by weight based on the total weight of the adhesive system, and wherein the difunctional methacrylate monomer is an alkylene glycol dimethacrylate.
2. The system of claim 1 further comprising and a thickener, a thixotrope, an adhesion promoter, or combination thereof.
3. (Currently amended) The system of claim 1 wherein for Part A the monomer is selected from the group consisting of methyl methacrylate, methacrylic acid, isobornyl methacrylate, ethylene glycol dimethacrylate, ethoxylated bisphenol A diacrylate esters, tetrathylene glycol dimethacrylate, diethylene glycol dimethacrylate, diethylene glycol diacrylate, tris (2-hydroxyethyl) isocyanurate triacrylate, an alkyl ester of acrylic acid, a hydroxy alkyl ester of acrylic acid, a hydroxy alkyl ester of methacrylic acid, butyleneglycol dimethacrylate, tetrathyleneglycol dimethacrylate, polyethylene glycol dimethacrylate, bisphenol A dimethacrylate, ethoxylated bisphenol A dimethacrylate, pentaerythritol dimethacrylate, butyleneglycol

trimethacrylate, ~~tetraethyleneglycol trimethacrylate~~, polyethylene glycol trimethacrylate, bisphenol A trimethacrylate, ethoxylated bisphenol A trimethacrylate, and pentaerythritol trimethacrylate.

4. (Currently amended) The system of claim 1 wherein any other monomers present apart from the difunctional methacrylate monomer are in amounts ranging from about 5 to about 30 percent based on weight of the total formulation.

5. (Original) The system of claim 1 wherein the free-radical initiator is benzoyl peroxide (BPO), cumene hydroperoxide, or a combination thereof.

6. The system of claim 1 further comprising fused silica in Part A.

7. (Canceled.)

8. (Original) The system of claim 1 wherein the antioxidant is hydroquinone, benzoquinone, or a combination thereof.

9. (Original) The system of claim 1 wherein in Part B the difunctional methacrylate monomer is ethylene glycol dimethacrylate or propylene glycol dimethacrylate.

10. (Original) The system of claim 1 wherein in Part A the monomer is ethylene glycol dimethacrylate or propylene glycol dimethacrylate.

11. (Currently amended) The system of claim 1 wherein in Part B the difunctional methacrylate monomer is present in an amount of from about 5.57 percent to about 99 percent.

12. (Original) The system of claim 1 wherein in Part B the N,N-disubstituted aromatic amine is N,N-dimethyl-p-toluidine, N,N-dimethylaniline, N,N-diethylaniline, or 4,4'-methylenebis (N,N-dimethylaniline).

13. (Original) The system of claim 1 wherein the N,N-disubstituted aromatic amine is present in an amount of from about 0.5 to about 5.0 percent by weight of Part B.

14. (Original) The system of claim 1 wherein the amounts of parts A and B are at a volume ratio of part A to part B of about 1:1.

15. (Previously amended) The reaction product formed from a two-part adhesive system comprised of a part A and a part B, wherein part A and part B comprise:

(a) an adhesive part A, which comprises:

a monomer selected from the group consisting of a monofunctional acrylate monomer, a difunctional acrylate monomer, a trifunctional acrylate monomer, a monofunctional methacrylate monomer, a difunctional methacrylate monomer, a trifunctional methacrylate monomer, and a combination thereof;

a peroxide or hydroperoxide free-radical initiator; and
an antioxidant;

(b) an activator part B, which comprises:

a N,N-disubstituted aromatic amine,
a difunctional methacrylate monomer,
an antioxidant,

wherein the difunctional methacrylate monomer is present in an amount of from 10 to 80 percent by weight based on the total weight of the adhesive system, and wherein the difunctional methacrylate monomer is an alkylene glycol dimethacrylate.

Claims 16-87 (canceled)

88. (Previously added) The reaction product of claim 15 further comprising and a thickener, a thixotrope, an adhesion promoter, or combination thereof.

89. (Previously added) The reaction product of claim 15 wherein for Part A the monomer is selected from the group consisting of methyl methacrylate, methacrylic acid, isobornyl methacrylate, ethylene glycol dimethacrylate, ethoxylated bisphenol A diacrylate esters,

tetrathylene glycol dimethacrylate, diethylene glycol dimethacrylate, diethylene glycol diacrylate, tris (2-hydroxyethyl) isocyanurate triacrylate, an alkyl ester of acrylic acid, a hydroxy alkyl ester of acrylic acid, a hydroxy alkyl ester of methacrylic acid, butyleneglycol dimethacrylate, tetrathyleneglycol dimethacrylate, polyethylene glycol dimethacrylate, bisphenol A dimethacrylate, ethoxylated bisphenol A dimethacrylate, pentaerythritol dimethacrylate, butyleneglycol trimethacrylate, ~~tetrathyleneglycol trimethacrylate~~, polyethylene glycol trimethacrylate, bisphenol A trimethacrylate, ethoxylated bisphenol A trimethacrylate, and pentaerythritol trimethacrylate.

90. (Currently amended) The reaction product of claim 15 wherein any other monomers present apart from the difunctional methacrylate monomer are in amounts ranging from about 5 to about 30 percent based on weight of the total formulation.

91. (Previously added) The reaction product of claim 15 wherein the free-radical initiator is benzoyl peroxide (BPO), cumene hydroperoxide, or a combination thereof.

92. (Previously added) The reaction product of claim 15 further comprising fused silica in Part A.

93. (Previously added) The reaction product of claim 15 wherein the antioxidant is hydroquinone, benzoquinone, or a combination thereof.

94. (Previously added) The reaction product of claim 15 wherein in Part B the difunctional methacrylate monomer is ethylene glycol dimethacrylate or propylene glycol dimethacrylate.

95. (Previously added) The reaction product of claim 15 wherein in Part A the monomer is ethylene glycol dimethacrylate or propylene glycol dimethacrylate.

96. (Previously added) The reaction product of claim 15 wherein in Part B the N,N-disubstituted aromatic amine is N,N-dimethyl-p-toluidine, N,N-dimethylaniline, N,N-dicethylaniline, or 4,4'-methylenebis (N,N-dimethylaniline).

97. (Previously added) The reaction product of claim 15 wherein the N,N-disubstituted aromatic amine is present in an amount of from about 0.5 to about 5.0 percent by weight of Part B.

98. (Previously added) The reaction product of claim 15 wherein the amounts of parts A and B are at a volume ratio of part A to part B of about 1:1.

99. (Amended) The reaction product of claim 15 wherein in part A at least one monomer is an alkylene ~~glycol~~ glycol dimethacrylate.

100. (Amended) The system of claim 1 wherein in part A at least one monomer is an alkylene ~~glycol~~ glycol dimethacrylate.